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INTELLIGENCE MEMORANDUM

RECONSTRUCTION IN NORTH KOREA

CIA/RR IM-390

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FOREWORD

This memorandum outlines generally the economic history of the Democratic People's Republic of Korea (North Korea) and its level of economic activity at the beginning of the Korean War. Estimates are made of the present extent of rehabilitation of industry, principally mining and metallurgy, electric power, chemicals, cement, textiles, construction, and transportation. Estimates are also made of the extent of agricultural self-sufficiency. The trading structure of the economy and North Korea's dependence upon foreign aid under the current Three Year Recovery Plan are discussed. The prospective results of Soviet Bloc aid to North Korea are compared with those which may be effected by aid to South Korea (the Republic of Korea) from the UN and the US.

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RECONSTRUCTION IN NORTH KOREA*

Summary and Conclusions

1. Summary.

The entire Korean peninsula was developed by the Japanese as an industrial area in close integration with the economy of Japan. In the northern half, large industrial units, producing chemicals, iron and steel ingots, aluminum, and a few other industrial materials, were superimposed by the Japanese upon a basically agricultural economy. The area is endowed with abundant resources for hydroelectric power and relatively ample deposits of anthracite coal, medium- and low-grade iron ore, tungsten, magnesite, and some lignite and gold. It is deficient in bituminous coal and petroleum.

During the Korean War a reduction in the population of North Korea from over 9 million to approximately 7.5 million resulted in a severe manpower shortage. This shortage is being combatted by the wide use of Korean and Chinese troops in reconstruction work and farming, by the mobilization of women workers, and by the usual Communist pressures to increase the productivity of individual workers. Since the end of World War II, the progress of industrialization in North Korea has been severely handicapped by the shortage of both technical and managerial skills, as well as by shortages of skilled and semiskilled labor. Among the measures adopted to relieve these shortages have been the establishment of additional general and technical educational programs, the widespread use of Soviet and Satellite advisors, and the training of Koreans in the USSR and the Satellites.

From 1950 to 1953, the war seriously damaged the agricultural sector of the economy. Many irrigation facilities were destroyed, the number of livestock was greatly reduced, chemical fertilizer production was shattered, and the supply of both farm labor and farm implements diminished. As a result, North Korea, which was an exporter of foodstuffs from 1946 to 1950, has now become a net importer of foodstuffs. Current plans envisage the

* The estimates and conclusions contained in this memorandum represent the best judgment of the responsible analyst as of 8 July 1954.

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restoration of chemical fertilizer plants and the increase of rice and grain production to prewar levels.

Since the end of the Korean War, North Korea has signed aid agreements with the USSR, Communist China, and the European Satellites, by which North Korea will receive over \$800 million in material. If this aid is actually received and properly implemented, North Korea should very closely approximate its 1946-50 level of economic activity by the end of 1956. This aid is for the purpose of implementing the Three Year Recovery Plan (1954-56) for North Korea which was announced in April 1954. The principal objectives of this plan are the rehabilitation and development of industry and agriculture and the improvement of living standards. The plan calls for an increase in over-all industrial production of 60 percent over 1953. It also calls for a 31-percent increase in paddy rice output, a 41-percent increase in other grains, and a 140-percent increase in cotton output over 1953.

Although most of North Korea's industry was either completely incapacitated or de-activated during the Korean War, much progress is being made in the restoration of economic productivity to 1946-50 levels. In the food processing industry, new canning factories and grain polishing mills are under construction. In the textile industry the Pyongyang Textile Factory is now back in partial operation and production of cotton cloth is being expanded by the installation of imported Soviet Bloc textile machinery. In the mining field, 32 coal mines are to be restored and 3 new ones constructed, in order to achieve an annual coal production of 4 million tons by the end of 1956. Production of lead, copper, and zinc is to be greatly increased by the reconstruction of smelting facilities at Chinnampo, Munpyong, and Hungnam. Rehabilitation of the Supung (Suiho) Power Plant and other small plants is continuing, so that by 1956 North Korea's power needs will be amply satisfied, that is, power will not be a limiting factor in industrialization. In the chemical field, reconstruction of the Hungnam Chemical Works and of other chemical and fertilizer plants is being speeded up, so that by the end of 1956 production of chemical fertilizer should be at about one-third of the 1946-50 rate.

In the construction field the desperate need for building and housing will require the speedy restoration of North Korea's 6 cement plants, which formerly had an average yearly production of about 1 million tons of cement. In the field of engineering, North Korea is entirely dependent upon Soviet Bloc aid, especially from the USSR. Special types of capital equipment have been promised by many of the Satellites for shipment to North Korea before 1956. In the field of transportation the reconstruction and operation of North Korea's railroads have been almost entirely in the hands of the USSR and Communist China, with the latter country providing most of the manpower and materials. Although the main highways in North Korea were reconditioned

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and widened during and since the war to serve as supply routes, much of the construction work was of a temporary nature. Additional rehabilitation is necessary, particularly on bridge structures.

From 1946 to 1950 the major commodities exported by North Korea were pig iron, steel, nonferrous ores and metals, fertilizer, industrial chemicals, lumber, marine products, and grains. Major imports during this period were bituminous coal, petroleum, machinery, textiles, electrical equipment, and armaments. Since 1950, exports have virtually ceased, although limited exports of ore have been noted, and imports have been financed by loans or outright grants from the Soviet Bloc, principally the USSR and Communist China.

South Korea, on the other hand, has been assisted by the US almost exclusively since 1946, during which period it has received over \$1.4 billion in economic aid, exclusive of military aid. Since 1950, South Korea has received, monetarily, more foreign reconstruction assistance than North Korea. Aid to North Korea has been primarily in the form of capital construction under the supervision of the USSR, with the objective of eventually integrating North Korea into the Soviet Bloc as a self-sustaining trading partner. In South Korea, foreign assistance has supported the objective of developing a more viable economy and raising the standard of living. The South Korean government, however, has the major voice in the implementation of this aid -- a fact which has resulted in a generally inefficient use of the aid.

In order to feed about 75 percent of the people of Korea, South Korea is supplementing its food production by importing between 300,000 tons and 400,000 tons of food products a year. In addition, South Korea's population is expected to increase at the rate of about 2 percent a year. Nevertheless, it is believed that the present UNKRA-sponsored Five Year Agricultural Plan (1954-59) will once again make South Korea a food surplus area.

2. Conclusions.

a. The present industrial reconstruction of North Korea is beginning from a much weaker base than the rehabilitation following the end of World War II. The Soviet Bloc in general, however, is in a much better position to render economic assistance now than before.

b. Increased flow of economic assistance from the Soviet Bloc may eventually result in the full integration of North Korea into the Bloc economy in general and the Soviet Far East economy in particular.

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c. Although North Korea has the basic capability to carry on balanced trade with the Soviet Bloc, particularly through the export of metallic ores, it will be several years before a balanced trade pattern will be effected through increases in ore exports and sizable decreases in capital goods imports.

d. Although Communist China played a major military role in the Korean War and is now taking an active part in the rehabilitation of North Korea, the USSR apparently still dominates and controls the North Korean economy by its technical planning, supervision, and management of North Korean economic reconstruction.

e. Increased agricultural productivity should be effected in North Korea by the restoration of chemical fertilizer plants, which should result in larger supplies of fertilizer and, in turn, larger crop yields.

f. The present decreased population in North Korea, together with the government's drive to increase crop yields, should make North Korea self-sufficient in food output by the end of the current Three Year Plan.

g. By the end of 1956, North Korean production of consumer goods will probably be in excess of the 1946-50 average level, while rail transportation and the production of agricultural products, coal, metallic ores, cement, and pig iron will probably approximate the 1946-50 average.

h. Economic rehabilitation in North Korea, although directed less toward viability, may eventually be better implemented than economic rehabilitation in South Korea, unless the US is able to convince the South Korean government of the necessity for closer cooperation in administering and supervising the aid program, for making more effective use of South Korea's own foreign exchange and natural resources, for establishing sound internal credit and fiscal policies, and for overcoming reluctance to purchase goods from Japan.

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I. Introduction.

The modern Korean economy was built by the Japanese to serve their own economic system rather than as a viable, independent national economy. Because of the location of natural resources, heavy industry and power installations were centered in the northern part of the country. Light industry, trading centers, and agriculture were developed in larger proportions in the southern part. Following the Japanese defeat in World War II in 1945, the Korean economy was divided at the 38th Parallel. Neither part was self-sufficient. Aggravating the division of resources, the repatriation of Japanese technicians left Korea with a severe shortage of technical labor. South Korea was occupied and guided by the US, while North Korea came under Soviet domination. In 1950, North Korean Communist forces attacked South Korea, eventually involving eighteen nations of the world in direct military action as the conflict became one of the Soviet sphere versus the Free World. During the war both parts of the country were badly devastated. Only since the truce, signed in the summer of 1953, have they both begun reconstruction.

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S-E-C-R-E-TII. Manpower.

The most pressing problem of North Korea today is a severe shortage of labor, especially in the technical fields, but also in all other areas of the economy. In 1949 the country had slightly more than 9 million people, ^{1/}* but by 1953 the population had been reduced to about 7.5 million.** Casualties due to direct war action accounted for only a small part of this loss. About 1 million refugees fled to South Korea, and an undetermined number of persons fled to Manchuria. Starvation and disease evidently exacted a heavy toll, as it seems probable that desperate health conditions during the winter of 1950 fostered the inauguration of the "bacteriological warfare" propaganda campaign.

Of the 7.5 million population, approximately 49 percent, or 3.6 million persons constitute the productive age group,** and 334,000 of this group now are in the North Korean armed forces. ^{2/} To this relatively small working group of Koreans, however, can be added the Chinese Communist troop strength in North Korea of about 608,000 men, ^{3/} and Chinese Communist technicians and laborers and other foreign technicians totalling approximately 50,000 at the maximum.

The North Koreans are particularly short of technically trained and managerial personnel. The development of Korean industry by the Japanese was designed to make Korea an integral part of the Japanese Empire rather than a viable economic unit. Not only was Korea as a whole out of adjustment in this respect, but also the northern and southern parts of the country were developed along different lines with power plants and iron, steel, and chemical plants in the north and light industry in the south. Thus the trained Korean personnel in the north were limited to the fields of heavy industry. Japanese policy did not encourage the training of Korean technicians and engineers, and those who did achieve technical or managerial status were politically suspect following the Communist assumption of power because of their close association with the Japanese. Many of these persons were disposed of by the North Korean police, and a large number fled to South Korea. ^{4/} During the hostilities even more of this class fled to South Korea, aggravating the shortage.

The North Korean regime, soon after assuming power, initiated a number of measures to overcome the shortage of technical personnel. These measures involved expansion of educational facilities in both general and technical fields; the furnishing of Soviet advisors, not only in the policy-making and administrative areas but also within industrial installations for training and guidance purposes; and the training of North Korea personnel

* References in arabic numerals are to sources listed in the Appendix.

** CIA estimate.

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in the USSR and the Satellites. These measures have continued and developed to the present, although they were in some respects disrupted by the war.

In spite of all measures to train North Korean technicians, the major dependence in this field has been upon the use of personnel from the USSR, Communist China, and the European Satellites. Over 700 technicians from the USSR, China, Poland, Czechoslovakia, and Hungary (this figure does not include the large number of Chinese laborers and semiskilled workers in Korea) are in North Korea at key factories, mines, and construction sites. The technical aid which they are rendering is essential to North Korean recovery. Soviet advisors appear to hold the controlling positions in all industrial and economic activity except in the railroads, where Chinese personnel are evidently in the majority and probably in control.

Besides the shortage of technical and managerial skills, the North Korean authorities are handicapped by a severe shortage of skilled and semiskilled labor. This situation existed at the time the country was liberated from Japanese rule and has been aggravated by the severe population losses caused by harsh measures of the government and by the devastation of war. It is further aggravated now by the fact that North Korea has embarked on a reconstruction effort in the Communist pattern of stress on heavy industry which not only requires even more skilled and semiskilled labor but also conflicts with the normal desires of the Korean people, who, left to their own devices, would probably devote their energies to improving the supply of foodstuffs and consumer goods on a handicraft basis.

The regime at present is meeting the labor shortage with the use of troops, both Korean and Chinese Communist, in the reconstruction work of rebuilding factories, transport facilities, schools, and hospitals, and possibly in the operation of some plants. 5/ It is estimated that the agricultural labor problem has been generally solved for the present by the use of troops at the three periods of peak labor requirements -- in spring cultivation and planting, in the harvest of certain winter and spring crops and rice transplanting, and in the fall harvest to supplement the full-time agricultural force. The deficient agricultural yield being achieved appears to be the result of factors other than personnel.

The labor force is supplemented by the use of women in all phases of industry. It has been reported that all women between the ages of 18 and 23 were being conscripted for factory work beginning in December 1953. 6/ Efforts to secure more women in industry should be fairly effective since propaganda and coercive measures can be effectively combined with the need for higher incomes and ration privileges on the part of workers.

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In the Communist fashion, worker productivity is being pushed to the extreme. Work norms have been increased up to 200 percent, 7/ and the regime resorts to mass meetings and propaganda exhortations to increase labor discipline.

Finally, the North Korean regime has the problem of controlling the ever-growing Communist-type bureaucracy, which is estimated to comprise approximately 15 percent of the male population in the 20-40 age group.

Even with maximum exploitation of the measures mentioned above, it is doubtful whether the North Korean regime can surmount the acute shortage of technical and skilled labor adequately enough to fulfill its economic development program.

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S-E-C-R-E-TIII. Agriculture.

Before the outbreak of the Korean War, North Korea was a net exporter of foodstuffs. Between 1950 and 1953, however, the war did considerable damage to North Korean agriculture. Many irrigation facilities were destroyed, the number of livestock was greatly decreased, chemical fertilizer production was shattered, and farm labor and farm implements were scarce. In addition, lack of proper grain storage facilities accelerated the spoilage of grain. As a result, North Korea has become a net importer of foodstuffs. 8/ During the first quarter of 1954, North Korea imported 61,500 tons of foodstuffs, and has been promised a total of 130,000 tons of grain by Communist China for delivery in 1954. 9/ For estimated production of selected agricultural commodities, see Table 1.*

The decrease in agricultural production from the 1946-49 average level is believed to be caused more by the lack of short-term capital, especially fertilizers, than by a reduction in the agricultural labor force, because the labor force is flexible and may be supplemented by diverting workers from other occupations during the seasonal peak labor periods. A shortage of agricultural labor may be remedied by more efficient management of existing agricultural labor power.

According to the current Three Year Plan for agriculture the restoration of such chemical fertilizer plants as those at Hungnam and Nampo is to be given special attention. 10/ Under this plan, production of paddy rice is to increase by 31 percent, other grains by 41 percent, and cotton by 140 percent over 1953. As to livestock, the number of head of cattle is to increase by 38 percent and pigs by 72 percent over 1953. 11/ For further agricultural development, the 800 agricultural cooperatives, which are now operated by 12,000 farmers, are to be increased in number and are to receive more governmental assistance and supervision than before. 12/

Basically, North Korea is in a fundamentally sounder position than South Korea as to self-sufficiency in the production of food. Although the latter in the past has proved capable of producing 65 percent of the total agricultural output of Korea, it now must feed over 75 percent of the people of Korea. South Korea is engaged in a Five Year Agricultural Plan (1954-59), with UNKRA aid, to restore irrigation facilities, to initiate land reclamation and flood control projects, to increase the use of chemical fertilizers, and to improve marketing facilities, so that by 1959 it will be self-sufficient in food production in spite of an estimated annual population increase of about 2 percent. North Korea, on the other hand, even with a growing population has a very good opportunity of increasing agricultural production faster than its population increases. 13/

* Table 1 follows on p. 10.

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Table 1

North Korea: Estimated Production
of Selected Agricultural Commodities 14/
1946-49 Average, 1952, and 1953

Commodity	Unit	Average for 1946-49	1952	1953
Rice	1,000 tons	940.5	614	737
Corn	1,000 tons	106.5	75	107
Wheat	1,000 tons	132	99	99
Millet	1,000 tons	336	241	261
Soybeans	1,000 tons	188	143	143
Potatoes (white)	1,000 tons	448.5	505	505
Potatoes (sweet)	1,000 tons	107.5	123	123
Cotton	1,000 bales	37	17	32
Cattle	numbers	667,500	480,000	490,000
Swine	numbers	428,375	317,000	333,000
Fuelwood <u>a/</u>	cu m	3,725,000	N.A.	3,700,000
Timber	cu m	4,972,750	N.A.	5,200,000
Paper	tons	25,085	N.A.	N.A. <u>b/</u>

a. Includes all wood used as fuel for cooking, heating, production of power, and the like.

b. Estimated production for 1954 is 42,000 metric tons, which is based on the announced plan to increase production 26 percent over 1949. 15/

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IV. Selected Industries.

A. Food Processing.

During World War II, approximately 75 percent of Korea's food processing plants were located south of the 38th Parallel. The only important food processing industries operating in North Korea were the fish processing, grain cleaning, and brewing industries, the most important of which was the fish processing industry. From 1946 to 1950, fish products constituted one of the principal export commodities of North Korea, which has always been one of the largest marine producing countries in the Far East, with an annual prewar average fish catch of over 1 million tons. 16/

During the Korean War, most of the food processing plants in North Korea were forced to operate in caves. The fishing industry suffered severe losses to its boats, bases and processing facilities and was confined largely to on-shore night fishing. 17/ As a result, the total fish catch for 1951 was 100,000 tons, 18/ for 1952 about 100,000 tons, 19/ and for 1953 about 280,000 tons. 20/

According to the current Three Year Plan, 3 new canning factories are to be built and by 1956 the production of marine products is to be three times that of 1953, or about 840,000 tons. 21/

B. Textiles.

Before the start of the Korean War, over 75 percent of the Korean textile plants were located in South Korea. At that time, only the Sinuiju and Sarawon cotton textile plants were in operation in North Korea. 22/ The large Pyongyang textile factory, with a scheduled annual capacity production of 36 million meters of cotton cloth, was only 80 percent completed when the war began. 23/

During the Korean War, most of North Korea's textile plants were destroyed, including the Pyongyang Textile Factory, which was almost a total loss. 24/ Much of the machinery in these plants, however, had earlier been moved into caves, where small-scale textile operations were conducted throughout the war. 25/ In spite of these handicaps, cotton cloth production actually increased from an estimated 15 million meters in 1950 to about 27 million meters in 1953. 26/ Nevertheless, this modest rate of production fell far short of satisfying the demand for cotton textiles, and was only about 2 percent of that of Communist China, which produced an estimated 1.3 billion meters of cotton cloth in 1953. 27/

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The current Three Year Plan envisages the successful restoration of the Pyongyang Textile Factory, which was back in partial production in December 1953. Cotton cloth production at this plant is expected to increase from 15 million meters in 1954 to about 50 million meters in 1956. ^{28/} With the assistance of Soviet Bloc textile machinery and technicians, North Korea hopes to produce a total of 57.2 million meters of cotton cloth in 1956. ^{29/}

C. Fuels.1. Petroleum.

At the present time, there is no indigenous production of natural crude oil and there are no serviceable facilities for refining crude oil in either North or South Korea, both of which are solely dependent on imports. From 1946 to 1950 there were three Japanese-built oil refineries in operation in North Korea -- the Wonsan Refinery, the Yongan Synthetic Oil Refinery, and the Aoji Synthetic Oil Refinery -- which produced an estimated total of 85,000 tons of refined petroleum products during this period. ^{30/} All three of these plants were demolished by UN bombings in 1950. Only the Aoji plant appears to be in the process of rehabilitation. ^{31/}

2. Coal.

After World War II, the USSR sent several mining engineers and technicians to North Korea, in addition to large quantities of mining equipment, in order to restore the war-ravaged coal production facilities. ^{32/} As a result of this aid, anthracite coal production in North Korea increased from 1.339 million tons in 1946 ^{33/} to 3.948 million tons in 1949. ^{34/} North Korea has no resources of coking-grade bituminous coal.

The destruction of 73 percent of the coal mine pits by floods and by UN bombings in 1951-53, and the loss of experienced miners to the army and to South Korea, resulted in a drastic curtailment of coal production. ^{35/} In February 1953, only 5 out of 32 coal mines under the jurisdiction of the Department of Mines Control were reported to be in operating condition. ^{36/} In March 1953, after almost nine months of rehabilitation and reconstruction, it was announced that the flooded mines would be restored and that production would be started in one or two years. ^{37/} As part of the rehabilitation program, three of the largest mines -- Aoji, Anju, and Sinchang -- were to be fully restored and enlarged, with the aid of Polish mining technicians. ^{38/}

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The Three Year Recovery Plan for 1954-56 includes the restoration of 32 coal mines and the construction of 3 new ones with an annual production capacity of 2.5 million tons. ^{39/} The production of coal in 1954 is expected to be about 1.42 million tons, ^{40/} while the announced goal for 1956 is approximately 4 million tons. ^{41/} It is doubtful, however, that such an increase will be achieved in so short a period of time.

D. Ferrous Metals.

During World War II, about 95 percent of Korea's iron and steel industry was located north of the 38th Parallel. Although most of the iron and steel production facilities had been rendered inoperable by the end of World War II, Soviet aid in the postwar period of 1946 to 1950 restored North Korea's heavy industry to the extent that it was able to export both pig iron and rolled steel products to the USSR. ^{42/}

During the Korean War, North Korea's iron and steel industry is believed to have suffered the following estimated damage: metallurgical coke production capacity, about 100 percent inoperable; pig iron, about 70 percent inoperable; steel ingots, about 85 percent inoperable; and finished steel, about 30 percent inoperable. ^{43/}

In 1950 the production of metallurgical coke and pig iron was confined to two plants -- the Hwanghae Smelting Works in Songnim (Kyomip'o) ^{44/} and the Kimchaek Iron Works at Ch'ongjin. ^{45/} Both of these plants were almost completely demolished during the war, but are believed to be undergoing reconstruction at the present time. ^{46/}

In 1950 the production of finished steel and steel for ingots and castings was centered in four plants -- the Hwanghae Smelting Works, the Ch'ongjin Steel Works, the Songjin Steel Works in Kimchaek (Songjin) and the Kangson Steel Works. ^{47/} Although all of these plants were rendered inoperable because of UN bombings, it is quite probable that some, if not all, are undergoing rehabilitation, since it has been officially announced that the 1954 output of metallurgical plants is expected to reach 35 percent of the 1949 output, and since heavy industry, of which iron and steel are a considerable part, is to amount to 120 percent of the 1941 output in 1956. ^{48/} For estimated production of iron and steel, see Table 2.* Figure 1 shows mineral resources of North Korea.**

* Table 2 follows on p. 14.

** Figure 1 follows p. 14.

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Table 2

North Korea: Estimated Production of Iron and Steel
1946-50 Average, 1954, and 1956 Planned 49/

	Metric Tons		
	Average for 1946-50	1954	1956
Coke (metallurgical)	167,000	Negligible	200,000
Pig Iron	92,975	58,000	180,000
Steel (ingots and castings)	94,346	50,750	174,000
Steel (finished)	69,455	37,800	129,600

E. Nonferrous Metals.

Most of the mineral wealth of Korea is found in North Korea, which is relatively self-sufficient in such strategic nonferrous metals and minerals as copper, lead, zinc, gold, graphite, salt, and pyrites. Most of its smelting and refining facilities, however, were knocked out early in the war and are now in the process of being rebuilt. 50/ South Korea, in contrast, has only a minor supply of nonferrous mineral resources and is largely dependent on outside sources for these vital materials.

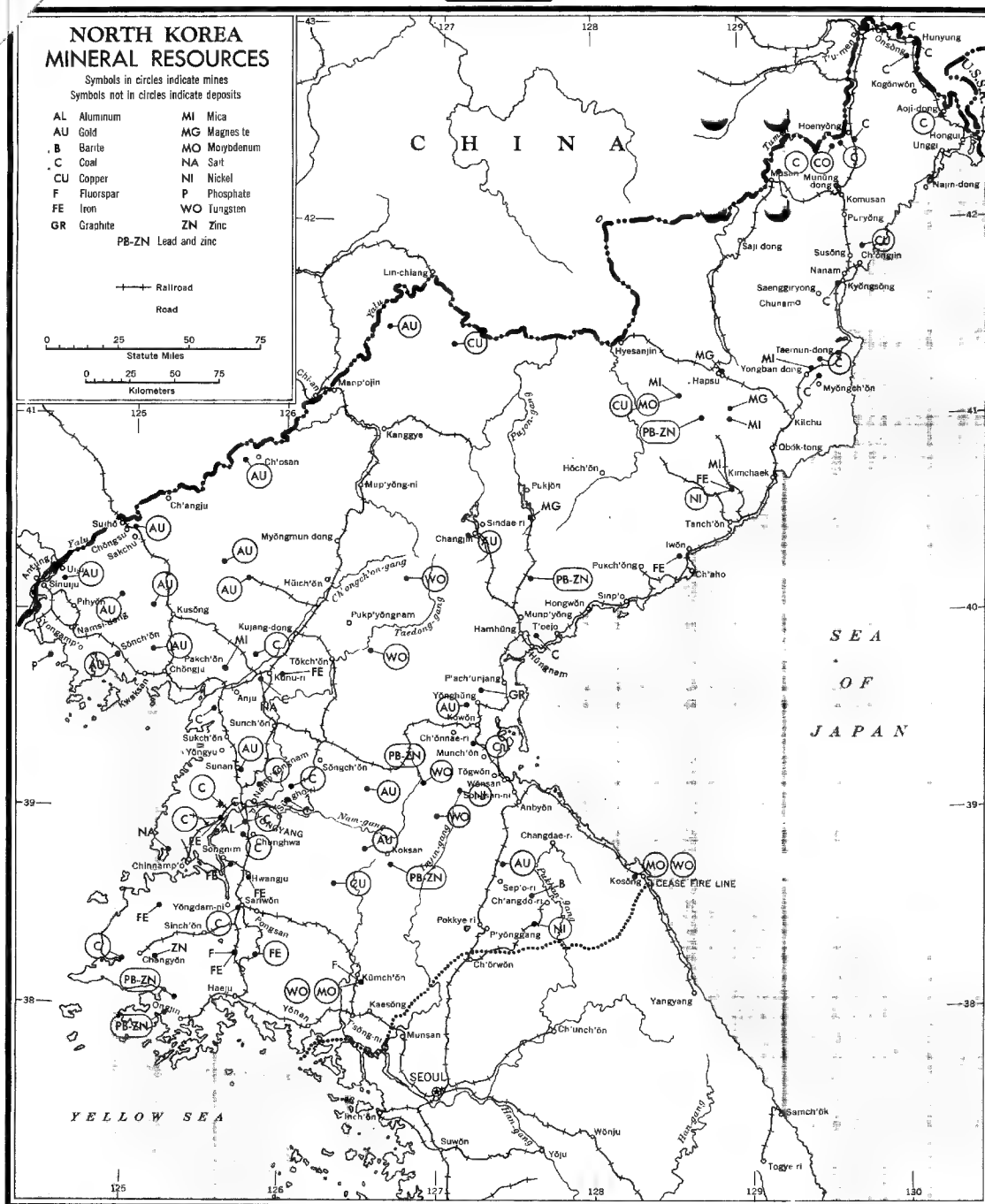
Since the cessation of hostilities in July 1953, large numbers of Soviet Bloc technicians and engineers and large quantities of mining machinery have been sent to North Korea. The USSR has sent rock drills, boring machines, tractors, and railway equipment for mining operations, and is conducting special training courses to develop a skilled mine workers pool. 51/

North Korea's copper production is confined to four smelting plants, which are located in Chinnamp'o, Munp'yong, Hungnam, and Haeju. 52/ The Chinnamp'o plant, which is twice as large as any of the other three plants, was in partial operation in April 1954, under the supervision of Soviet engineers. 53/ The Munp'yong and Hungnam plants are also believed to be undergoing reconstruction, while the Haeju plant, because of its proximity to the 38th Parallel demarcation line, will probably remain inoperable.

North Korea's lead production is supplied by the smelters at Munp'yong, Hungnam, Yongamp'o, and Haeju, 54/ which were all seriously damaged by UN bombings. This damage, plus other wartime disruptions including transportation breakdowns and the loss of technically skilled workers to South Korea, has greatly diminished the output of lead.

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FIGURE 1

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North Korea's zinc production is confined to the copper and zinc smelting plant at Chinnamp'o, which was severely bombed in August 1950. The plant is reported to be undergoing reconstruction. 55/

North Korea's deposits of graphite, gold, salt, and pyrites are extensive, and more than sufficient to satisfy the country's requirements of these metals for future economic expansion. For production estimates, see Table 3.

Table 3

North Korea: Estimated Production of Selected Nonferrous Metals 56/
1946-50 Average, 1954, and 1956 Planned

Mineral	Metric Tons		
	Average for 1946-50	1954	1956
Copper	3,400	1,000	5,000
Lead	6,900	1,000	5,000
Zinc	4,800	1,000	5,000
Gold a/	119,220	40,000	106,600
Graphite	31,670	18,000	48,000
Salt	145,000	300,000	350,000
Pyrites b/	224,500	70,000	120,000

a. Troy ounces.

b. 40-percent sulfur content.

F. Electric Power.

In 1949 the total capacity of electric power available to North Korea was approximately 1,350,000 kw. 57/ Most of this capacity was lost or greatly diminished as a result of UN bombings in 1950-53. With the assistance of Soviet technicians and equipment, however, many of the more important power plants have been or are being restored to their 1949 capacity. For example, the Supung (Suiho) Power Plant, which is the largest in North Korea, with a rated capacity of 400,000 kw, was attacked and severely damaged on 23-24 June 1952 and again in July 1953 by UN bombers. In October 1953, Soviet technicians had restored the plant to approximately its 1949

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capacity. 58/ About 50 percent of Suho power, however, is supplied to Manchuria. Also, in 1953, complete equipment for a power station, manufactured by the Skoda Works in Czechoslovakia, was shipped to North Korea. 59/

Restoration of damaged plants is expected to be completed by 1956, and North Korea's total electric power capacity is expected to be at least at the 1949 level. 60/ This capacity is believed to be more than adequate to meet the needs of the restored economy. On the other hand, South Korea has been short of electric power since the supply from the north was cut off. The current truce line is so drawn that one hydro facility, the Hwachon development, although north of the 38th Parallel, is in the area of UN control. It is being restored and expanded and will furnish power to South Korea. Present plans call for the erection in South Korea by the end of 1956 of 3 new steam power plants with a combined capacity of 100,000 kw, which should help to solve the power shortage problem. 61/

G. Chemicals.

During World War II and during the postwar reconstruction period from 1946 to 1950, industrial chemical production in North Korea was centered in the Hungnam Chemical Works, which contained the largest ammonia synthesis and sulfuric acid facilities in the Far East. The proximity of excellent sources of hydroelectric power and of raw materials enabled North Korea to attain self-sufficiency in the production of such industrial chemicals as sulfuric and nitric acid, caustic soda, ammonia, soda ash, calcium carbide, superphosphate and cyanamide, and ammonium sulfate fertilizer. Many of these chemicals were also shipped to China and the USSR. 62/

During the Korean War the Hungnam Chemical Works was completely demolished, as were most of the smaller chemical plants in North Korea. 63/ It is estimated, however, that the Hungnam ammonia, sulfuric acid, calcium carbide, and fertilizer plants will be operating at over one-third of their 1949-50 capacity by the end of 1956, mainly through the technical and material assistance of the Soviet Bloc. 64/ For estimated production of selected industrial chemicals, see Table 4.*

H. Cement.

During World War II, 6 of the 7 cement plants in Korea were located north of the 38th Parallel. These 6 plants had a combined production capacity of 1.7 million metric tons per year and an average annual production of about 1 million tons. This level of output was drastically reduced as a result of partial Soviet dismantling of plant facilities, and the loss of Japanese technical labor at the end of the war. 66/

* Table 4 follows on p. 17.

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Table 4

North Korea: Estimated Production
of Selected Industrial Chemicals ^{65/}
1946-50 Average, 1954, and 1956 Planned

	Metric Tons		
	Average for 1946-50	1954	1956
Ammonia	63,700	0	20,000
Ammonium Sulfate	211,580	0	100,000
Ammonium Nitrate	6,160	N.A.	N.A.
Calcium Carbide	94,340	20,000	N.A.
Calcium Cyanamide	N.A.	20,000	N.A.
Nitric Acid	8,580	N.A.	N.A.
Sulfuric Acid	197,200	50,000	N.A.

During the Korean War, cement plants in North Korea again suffered extensive damage. Some cement production, however, was possible by salvaging undamaged equipment from bombed out plants and moving it into caves. ^{67/} In 1953, four plants were being rebuilt and are now in partial production, through Soviet Bloc technical and material assistance. ^{68/} The output of cement in 1954 is expected to be about 280,000 metric tons, ^{69/} and by the end of the Three Year Plan is to be about 525,000 metric tons per year. ^{70/} Since July 1953, North Korea has received about 100,000 tons of cement from Communist China, in addition to quantities from the USSR. ^{71/} In view of the extensive construction campaign envisaged in the current Three Year Plan, it now appears likely that North Korea will remain dependent on cement imports from Communist China and the USSR at least until 1956.

I. Engineering Industries.

Under Japanese rule, the industrialization of Korea was unbalanced, since it served only as a source of agricultural products, raw materials, and semifinished industrial products. Engineering industry plants were concentrated primarily in South Korea, while two-thirds of other types of industry were centered north of the 38th Parallel, where there is an abundance of raw materials and hydroelectric power. ^{72/}

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During the reconstruction period of 1946-50, North Korea's small engineering industry, which is concentrated in the cities of Pyongyang, Hungnam, Hamhung, Wonsan, Kimchaek (Songjin), Ch'ongjin, Sinuiju, Huichon, and Haeju, 73/ suffered not only from general obsolescence and from the loss of its highly skilled Japanese labor force but also from the flight of about 1.5 million Koreans from north to south. 74/ Since North Korea was unable to produce enough machine tools, machinery, and other metal fabrication products essential to the maintenance of its industrial facilities, it became dependent upon the USSR for material assistance. 75/

During the Korean War, UN naval and aerial attacks destroyed the operating facilities of most North Korean machinery, machine tool and metal working plants, and shipyards. The Pyongyang, Hungnam, Sinuiju, and Wonsan areas were particularly hard hit. Most of the smaller industrial plants that escaped destruction remained inoperable, due to the general deterioration of the North Korean economy. In spite of the virtual destruction of their industrial plant, however, the North Koreans tried to maintain some productive capabilities by regrouping machines salvaged from bombed plants, by importing small quantities of machine tools from the USSR, and by assembling this equipment in caves and other remote locations. 76/

The reestablishment of modern industries in North Korea is entirely dependent upon Soviet Bloc aid, especially from the USSR. It was recently announced that, by the end of 1956, North Korea will have received electrical machinery and communications equipment from Hungary; a diesel engine factory and an electrical equipment factory from East Germany; transportation equipment and mechanical facilities for a cement and brick plant from Rumania; woodworking tools and machinery from Bulgaria; equipment for automotive repair and manufacturing plants and power stations from Czechoslovakia; and locomotive and freight car repair facilities from Poland. 77/ Although North Korea is in need of capital equipment, it is doubtful that such an ambitious construction plan will be achieved by 1956 because of the scarcity of processing facilities for raw materials and of the skilled labor needed for this type of manufacturing.

J. Transportation and Communications.

1. Railroads.

The original pattern of the North Korean railway system was developed by the Japanese to serve as a link between Manchuria and the Korean seaports serving Japanese ships. The rail pattern, in the form of a large H, is shown in Figure 2.* In early 1950 the entire net contained 3,730 kilometers of main line, 78/ but during the years of fighting the rail lines

* Figure 2 follows p. 18.

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and bridges suffered severely from UN bombings. Since the truce, however, railroad reconstruction has been given high priority in the economic program of the country, and, judging from official announcements, it appears that at present all vital elements of the net have been restored to operating status, although they have not been returned to the operating level of 1950. 79/

At present the rail lines are being used primarily in the transport of building material necessary in the reconstruction effort. 80/ Through freight traffic between Korea and China began on 1 April 1954. 81/

Repair facilities were almost entirely destroyed during the war, and although reconstruction has received high priority, it is probable that repair volume will not be restored to prewar levels until after 1955. Reconstruction and operation have been almost entirely in the hands of Soviet and Chinese Communist personnel, and in view of the fact that the major part of materials and manpower necessary for reconstruction of the rail net can be provided only at the expense of China's needs, it is possible that the rail net will not be restored to prewar operating levels by 1956.

2. Highways and Vehicular Traffic.

The North Korean highway pattern, containing approximately 6,000 to 8,000 kilometers, 82/ has altered little in the past 8 years. (See Figure 2 for major routes.) During and since the war, main roads have been reconditioned and widened to serve as supply routes for military purposes -- a primary use of the highway network at present. Much of the construction work was of a temporary nature, however, and additional rehabilitation is still necessary, especially on bridge structures. North Korea is largely dependent upon the USSR and the Soviet Bloc for vehicles, parts, and for technical and supervisory personnel in all phases of vehicular transport.

3. Water Transport and Air Transport.

Both water transport and air transport are insignificant in the North Korean economy. The USSR operates and staffs the only sizable shipping concern, and the only airline. Economic aid is directed toward other forms of transport.

4. Telecommunications.

The telecommunications net in North Korea was developed to serve the Japanese economy rather than as a part of a self-sustaining Korean economy. Generally, communications were passed over wire lines, with radio

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in an augmenting role. Pyongyang is the communications focal point, with other economic centers serving as areal communications centers. Telecommunications are government-owned, and public use of the facilities is extremely limited. North Korea is dependent for almost all technical supervision and for equipment and parts upon the USSR and the European Satellites. Since the truce, wire rehabilitation on main lines has been pushed, using Soviet Bloc aid.

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S-E-C-R-E-TV. Foreign Trade and Soviet Bloc Economic Assistance.A. Foreign Trade.1. General.

Due to the unbalanced nature of the North Korean economy and its integration first into the Japanese economy and now into the economy of the Soviet Far East, foreign trade is a significant aspect of the North Korean economic complex. Its significance is underlined by the large number of items which are surplus to the needs of the economy that can be traded for commodities in which the economy is deficient. In the period from 1946 to 1950 the major commodities exported by North Korea were pig iron, steel, nonferrous ores and metals, fertilizer, industrial chemicals, lumber, marine products, grains, and manufactured foods. The major imports were bituminous coal, petroleum, machinery, fabricated metal products, electrical equipment, salt, textiles, paper, pharmaceuticals, and armaments. ^{83/} Since 1950, North Korea's formal trade has been totally disrupted, exports have virtually ceased except for limited shipments of ores, and imports have been financed by loans or outright grants.

2. Trade with the USSR.

During the period from 1946 to 1950 the USSR was North Korea's most important trading partner, with value of trade increasing from \$13.9 million in 1946 to a planned \$17.1 million in 1950. Imports and exports between the two countries generally followed the above listing, with cereal grains, fertilizer and other chemicals, pig iron, and ingot steel accounting for more than half of the value of North Korean exports. Of the imports from the USSR, machinery and armaments constituted 50 percent by value, coal 10 percent, petroleum 10 percent, and technical services 10 percent to 20 percent. ^{84/} Details of Soviet-North Korean trade agreements are not known. Agreements were signed in 1949 and 1950 providing for Soviet shipments of equipment, machinery and parts, crude oil, locomotives, and cotton in exchange for North Korean metals and chemicals products. ^{85/} On 15 March 1954 a trade agreement was signed providing for resumption in 1954 of the former trade which was interrupted during the war. The Soviet-North Korean aid agreement of November 1953 is discussed below.

3. Trade with China.

Trade with China during 1946-48 was likewise important, but not of the magnitude of North Korean - USSR trade, trade value being on the order of about \$10 million in that period. North Korean exports included fertilizer, carbide, graphite, agricultural products, anthracite coal, sheet metal, marine products, and lumber. Imports from China included textiles, foodstuffs, and bituminous coal. Trade agreements with Manchuria (Communist China) were signed in 1948, but no details are known. During the war, trade with Communist China was in the form of Chinese aid. In September 1953, North Korea and Communist China held a trade conference wherein a barter agreement was proposed under which North Korea would supply local agricultural products for Chinese industrial products. It is not certain that this agreement was implemented. ^{86/} The Chinese Communist-North Korean aid agreement of November 1953 is discussed below.

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4. Trade with European Satellites.

Little if any trade between North Korea and the European Satellites existed before 1952, and since then economic relations between the two have consisted mainly of Satellite aid. Trade agreements were reported concluded with Poland 87/ and Hungary, 88/ but no details are available.

5. Trade with the West.

During the period 1946-50 Hong Kong was North Korea's most important non-Communist trading partner and provided during this period key commodities not obtainable from the USSR. North Korea exported foodstuffs, fats and oils, metallic ores, textiles, chemicals and pharmaceuticals, fertilizers, and gold to Hong Kong. It imported textiles, paper, chemicals and pharmaceuticals, dyeing and tanning materials, rubber, machinery, vehicles and transportation equipment, electric and electronic equipment, glass, and petroleum products. 89/ During the pre-Korean War period, trade was also carried on with Macao, India, China, and other countries of Southeast Asia. Clandestine trade was carried on with South Korea and Japan.

Available evidence indicates that there has been little North Korean trade with non-Soviet Bloc countries since shortly after the start of hostilities. Many Western nations have imposed embargoes on such trade.

6. Balance of Payments.

Before 1950, North Korean trade was generally in balance, but since 1950, with complete disruption of trade, the country has an extreme negative trade balance. Little has been exported, but much has been imported. Partial rehabilitation of gold and silver mines has enabled the country to export these precious metals to help pay for some of the needed imports, and there has been some export of other products since the truce. Nevertheless, North Korea is heavily dependent on outright grants and loans from Soviet Bloc countries both to satisfy current needs and to effect reconstruction of the war-devastated economy over the next few years.

B. Soviet Bloc Economic Assistance.

1. General.

North Korea's recent foreign economic relations have been signified by grants in aid rather than by trade. As a result of this aid from the USSR, China, and the European Satellites, North Korea is beginning to show progress in its rehabilitation effort, but despite this aid rehabilitation of most major industrial installations is still in the initial stages and most major industrial facilities are inoperable. 90/ The aid program is interesting as an experiment within the Communist Orbit in a seemingly genuine and coordinated aid program. 91/ Apparently the USSR and Communist China are intent on reconstructing the North Korean economy more rapidly and efficiently - as an integral part of the Soviet Bloc - than the South Korean economy is to be reconstructed by US and UN aid.

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2. Aid from the USSR.

Since 1949, aid from the USSR in the form of technical help, loans, and relief has been increasing and has largely taken the place of normal trade relations. In 1949 the USSR concluded a military treaty with North Korea, wherein the USSR agreed to supply all the necessary equipment and know-how for the establishment of 6 infantry division, 3 mechanized divisions, and 7 security force battalions; ^{92/} and by 1950 it was reported that the North Korean People's Army had been armed and equipped preponderantly with Soviet aid. ^{93/} In 1949 also, a 10-year Economic and Cultural Pact was signed between the two countries. In addition to providing for trade and cultural interchanges, supplemental agreements provided for Soviet aid to North Korea in the form of a \$40-million loan for the purchase of industrial equipment and raw materials, and in technical assistance for industry and agriculture. ^{94/} Although this aid was not particularly generous, it was, as far as the US embassy in Seoul knew, the only credit extended until 1953. In 1953 the largest manifestation of Soviet aid occurred, with a grant of one billion rubles (\$250 million), 50 percent of which was to be used for the build-up of military armament, 25 percent for light industry, and 25 percent for heavy industry. ^{95/} This grant was to be expended over a 3-year period, and there have been no promises of further aid.

Aid thus far arriving from the USSR has been consistent with that promised, with shipments including metals, machinery, electrical transportation and agricultural equipment, and chemical fertilizers.

3. Aid from Communist China.

No substantial amount of aid by Communist China to North Korea was provided before November 1953. In that month a 10-year cultural and economic cooperation agreement between the countries was announced. Three important sections of this agreement provided: (1) that any indebtedness incurred by North Korea to Communist China between 25 June 1950 and 31 December 1953 was to be considered a grant, with no remuneration required; (2) that China was to extend a grant of the equivalent of \$350 million over the 4-year period 1954-57, to be used for coal, cement, clothing, machinery, textiles, metal products, transportation and agricultural equipment, and food; and (3) that China was to provide technical aid, both in personnel in the field and in training in China for Korean students.

It is interesting to compare the aid agreements of the USSR and of Communist China with North Korea. ^{96/} The value of Chinese aid is larger than that granted by the USSR in 1953. Both countries will supply consumer goods, but the main Soviet contribution is in heavy industrial goods, while the Chinese will supply mainly transportation, light industrial, and raw material items.

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Whether the Chinese can provide the large amount of aid scheduled in the face of their own pressing economic development and industrialization is open to question. It is significant, however, that substantial implementation of this aid took place in January and February 1954, with textiles, grain, shoes, coal, cement, and railroad equipment as well as technicians and laborers, the main items, arriving in North Korea. Sizable shipments of food also arrived in March 1954, but it remains to be seen whether China can deliver the badly needed 130,000 tons of food promised for 1954.

4. Aid from European Satellites.

Although some examples of Satellite aid to North Korea during 1950 and 1951 are available, not until 1952 when East Germany concluded a loan agreement, and the last quarter of 1953, when other Satellites signed aid agreements for the reconstruction and development of North Korea at the instigation of the USSR, was substantial aid forthcoming from the Satellites.

The total value of these Satellite aid programs concluded between September and November 1953 is expected to be about \$250 million. They consist mainly of heavy construction programs aimed at North Korean rehabilitation, and extend in some cases to 1959. ^{97/} Generally the agreements by the various countries were to provide the following: ^{98/} Czechoslovakia is to construct factories, including an auto works, and auto parts and tool factories, and is to rehabilitate a cement works and three power generating stations. Poland is to construct a locomotive repair works and passenger and freight car works, and is to renovate three coal mines and provide other material and technical aid. Hungary is to construct a production workshop, organic chemical works, and a machine factory, as well as supply machinery and technical aid. East Germany, in addition to supplying the industrial equipment called for in the 1952 agreement, is to construct a diesel engine plant, an electrical equipment factory, and a publishing and printing plant between 1954 and 1956. Rumania is to construct a new cement factory, a new acetylene factory, and the facilities for manufacturing bricks, as well as providing some transportation equipment. Bulgaria is to provide between 1954 and 1956 various goods including cotton yarn, cotton fabrics, and canned food; and Albania and Mongolia are to provide unspecified items.

The Satellites have sent limited quantities of aid during the first few months of 1954, including horses, farm implements, and various types of machinery, textiles, shoes, and medicine. Czechoslovakia has sent the largest number of technicians, but some have also arrived from Poland, Hungary, Bulgaria, and possibly East Germany. As most of the Satellite aid programs are long-range, it will be some time before actual implementation can be observed.

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VI. Comparison of Economic Activity in North and South Korea.

A. Dependence of North and South Korea on Foreign Economic Assistance.

Since the surrender of Japan in 1945 and the withdrawal of Japanese administrators and technicians, both North and South Korea have been dependent on outside assistance in support of their industrial and governmental base. In North Korea this assistance has come primarily from the USSR, as outlined in the preceding sections. In South Korea, the US has been the primary assistor, with aid concentrated primarily in the welfare and social sectors.

Before the Korean War, North Korea was able to pay her way in the economic sector with exports of metallic ores and the like. South Korea, predominantly agricultural, with little to export, was required to accept US grants in aid. It is estimated that through June 1954 the US will have given the Republic of Korea almost \$1.4 billion, exclusive of direct costs of the US war effort in Korea and US support of the Republic of Korea Army (ROKA). 99/

During and since hostilities both nations have been alike in their positive requirement for foreign assistance. Assistance to North Korea has come from many of the Soviet Satellites as well as from the USSR and Communist China, and South Korea has been assisted by the US and by other countries of the West through the UN. However, the US continues to carry the heavy share of the aid. Of the approximately US \$444.5 million UNKRA aid grants received by September 1953, the US government and private agencies supplied over 95 percent. 100/ Since 1953 (that is, fiscal year 1954), in addition to the US \$30 million contributed to UN funds for Korean Relief and Reconstruction, and funds for support of the Republic of Korea Army, the US has allocated about US \$290.1 million through the FOA program for Korean reconstruction and the Department of the Army. 101/

Over-all, foreign reconstruction assistance monetarily since 1950 has been much greater to South Korea than to North Korea. More important than the amount of aid granted, however, are the programs for the use of this aid. Aid to North Korea has been primarily for use in capital construction, with imports of consumer goods and the welfare of the population receiving only a secondary share. The USSR, controlling Soviet Bloc aid, allocates its use in integrating the reconstruction program into Bloc economic plans, with the objective of eventually making North Korea a part of the Bloc industrial base.

In South Korea, on the other hand, foreign assistance has supported an objective directed primarily toward developing a viable, independent economy, raising the standard of living of the people, countering inflationary pressures, and maintaining an adequate military force for defense of the country. The US and UN in granting the aid do not have unilateral control of funds but share control with the Republic of Korea through the Combined Economic Board. This fact, and South Korean governmental policies, have resulted in some inefficient use of foreign aid, and even if South Korean production can return to the 1949-50 levels within five years, 102/ it will require policy changes within the South Korean government to effect economic independence and stability.

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B. General Level of Economic Activity in North and South Korea.

1. South Korea.

South Korea is a predominately agricultural country in which about 60 percent of the people live on farms and 75 percent are directly involved in farming or in the processing or handling of agricultural products. According to a recent report on the status of the South Korean economy, agriculture alone accounted for 44 percent of the 1953-54 gross national product.* 104/ In 1953 the rice crop, which is South Korea's most important crop, was comparable to the average annual rice crop for 1946-50, but the grain harvest was about 300,000 tons short of meeting consumption requirements. Because of deteriorated "irrigational" facilities and a poor seed distribution system, plus a shortage of fertilizers, South Korean agriculture is not yet ready to achieve the levels of foodstuff output required by its expanding population. Despite these depressed conditions, it is from agriculture that the greatest contribution toward self-sufficiency of the country can be made within the next few years. 105/ Figure 3 shows the distribution of industry in North and South Korea.**

Lack of electric power and a general shortage of transportation facilities are two of the most important deterrents to expansion of industrial production. Utilization of electric power capacity is expected to be increased from 92,000 kw in 1953 to about 160,000 kw in 1956. Repair and development of railways, roads, bridges, harbors, and port facilities are also expected to receive special attention. According to current plans, cement and fertilizer plants are to be constructed first, followed by a flat glass plant, paper mills, tire plants, and industrial chemical plants. As for mining operations, tungsten output has surpassed the 1946 output, and production of anthracite coal, though it increased over 1952, was still insufficient to meet the demand. Current plans call for greater coal mine explorations and the construction of refineries for talc, graphite, and fluorite. 106/ All economic planning, however, will have to take into account an acute shortage of skilled labor.

2. North Korea.

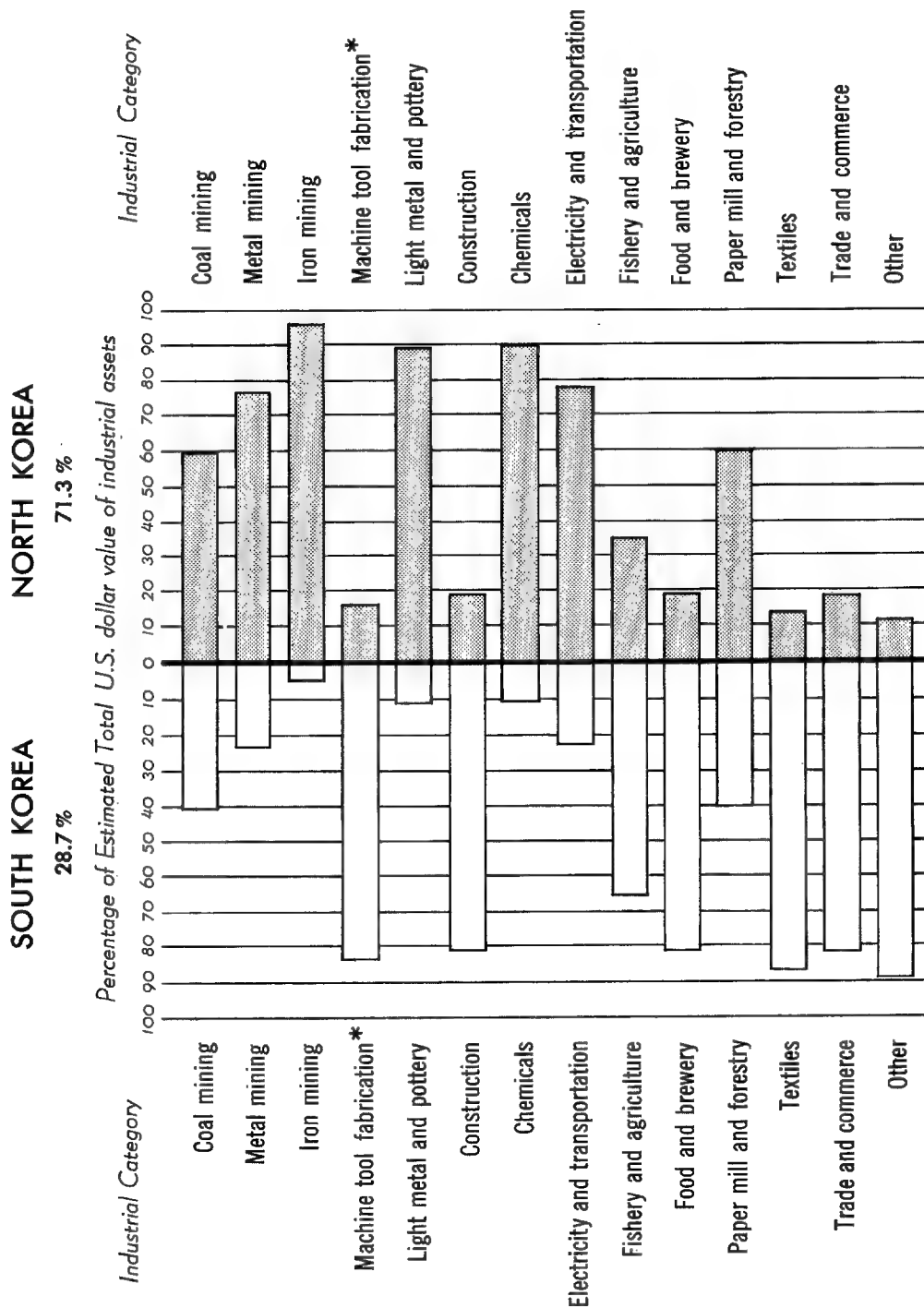
North Korea is endowed with enough hydroelectric power and mineral resources to foster current industrial reconstruction. Although less than 20 percent of its land is cultivated, North Korea was self-sufficient in food during 1946-50, and with Soviet Bloc assistance is expected to achieve this goal again during the present Three Year Plan. The latter envisages the following economic improvements: in industry, a 60-percent increase in 3 years in total industrial output over 1953; in agriculture, a 31-percent increase in paddy rice output, a 41-percent increase in other grains, and a 140-percent increase in cotton output over 1953. 107/

* The estimated gross national product of the Republic of Korea for the fiscal year 1953-54 amounted to US \$1,721,200,000. Of this total, agriculture contributed the largest portion, 44 percent; followed by foreign trade and finance, 14 percent; manufacturing, 11 percent; government, 11 percent; domestic trade, 8 percent; the remaining 12 percent divided between transportation, fisheries, mining, and construction.

** Figure 3 follows p. 26.

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DISTRIBUTION OF INDUSTRY IN NORTH AND SOUTH KOREA SHOWN BY THE DISTRIBUTION OF MAJOR JAPANESE INDUSTRIAL ASSETS IN KOREA, 1945^{103/}



* Includes shipbuilding and transport equipment, but not military end items.

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A severe shortage of skilled manpower, as a result of the repatriation of most Japanese technicians and the flight of many Korean workers south of the 38th Parallel, has retarded industrial production. Intensive training of technicians and skilled workers is now being conducted by the USSR and Communist China in the fields of metallurgy, coal and mineral mining, transportation, communications, chemicals, and light industry. Although present production of coal, electric power, iron, steel, pig iron, nonferrous metals, chemicals, cement, and food-products is considerably below the 1946-50 levels, 108/ the current Three Year Plan envisages the attainment of relative self-sufficiency in most of these commodities by the end of 1956. 109/

The governments of both North and South Korea have promised their respective peoples an increase in the standard of living by raising personal incomes, cutting prices, building schools and hospitals, and providing additional housing. The relative success to be achieved by North and South Korea in their reconstruction programs may very well be measured by the extent to which they are able to implement the outside aid which they respectively receive and by the quantity and quality of that aid. 110/

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APPENDIX

SOURCES

Evaluations, following the classification entry and designated "Eval.," have the following significance:

<u>Source of Information</u>	<u>Information</u>
Doc. - Documentary	1 - Confirmed by other sources
A - Completely reliable	2 - Probably true
B - Usually reliable	3 - Possibly true
C - Fairly reliable	4 - Doubtful
D - Not usually reliable	5 - Probably false
E - Not reliable	6 - Cannot be judged
F - Cannot be judged	

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this report. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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1. CIA NIS 41, Korea, Section 44. C.
25X1A2g2. [REDACTED]
3. [REDACTED]
4. [REDACTED]
25X1A8a5. [REDACTED]
6. [REDACTED]
25X1A8a7. [REDACTED]
25X1A2gp 8. CIA NIS 41, Korea, Section 61, Feb 1950. C.
25X1A2gDP79T00935 [REDACTED]
A000200370001-2

S-E-C-R-E-T

S-E-C-R-E-T

25X1A2g

9. [REDACTED]
[REDACTED] East Abstracts (FEA) 13 Apr 1954. C.

10. [REDACTED]

11. [REDACTED]

25X1A8a

12. [REDACTED]

13. UNKRA, An Economic Programme for Korean Reconstruction,
Mar 1954. U.

14. 25X1A2g, Section 61, op. cit.
[REDACTED] C.

Korean Central Year Book, 1953. U.

25X1A8a

15. [REDACTED]

16. CIA NIS 41, Korea, Section 64, Feb 1950. S.
State, OIR No. 5193, 24 Apr 1950. S.

17. State, OIR No. 5193, op. cit.

18. Ibid.

25X1A8a

19. [REDACTED]

20. [REDACTED]

21. [REDACTED]

22. CIA NIS 41, Korea, Section 64, op. cit.

23. [REDACTED]

25X1A8a

24. [REDACTED]

25. [REDACTED]

26. Ibid.

27. CIA/RR 33, The Economic Development of Communist China
through 1957, 30 Apr 1954. S.

28. [REDACTED]

25X1A8a

29. [REDACTED]

30. CIA NIS 41, Section 62, Mar 1950. C.

25X1A2g

31. [REDACTED]

25X1A8a

32. [REDACTED]

25X1A2g

S-E-C-R-E-T

S-E-C-R-E-T

25X1A2g

33.

34.

Ibid.

25X1A8a

35.

25X1A2g

36.

37.

25X1A8a

38.

39.

40.

41.

42.

CIA NIS, Korea, Section 63, Feb 1950. C.

25X1A2g

43.

44.

45.

Ibid.

25X1A2g

46.

25X1A8a

47.

25X1X7

25X1A2g

48.

CIA OCI, CID No. 4333, 19 Apr 1954. S.

49.

25X1A2g

25X1A8a

CIA OCI, CID No. 4333, op. cit.

25X1A8a

State, Survey of China Mainland Press No. 781, 3 Apr 1954. U.

52.

CIA NIS 41, Korea, Section 63, op. cit.

25X1A8a

54.

E.W. Pauley, Report on Japanese Assets in Soviet Occupied Korea, June 1946. C.

CIA NIS 41, Korea, Section 63, op. cit.

25X1A8a

55.

56.

CIA NIS 41, Korea, Section 63, op. cit.

25X1A2g

State, OIR No. 5600, 20 May 1951. C.

25X1A8a

- 31 -

S-E-C-R-E-T

S-E-C-R-E-T

25X1A2g

CIA OCI, CID No. 4318, 29 Mar 1954. S.

25X1A8a^{57.}

25X1A2g^{58.}

^{59.}

25X1A8a^{60.}

^{61.}

UNKRA, An Economic Programme for Korean Reconstruction,
Mar 1954. U.

25X1A2g

^{62.}

CIA NIS 41, Korea, Section 64, Feb 1950. S.

^{63.}

^{64.}

25X1A8a

^{65.}

25X1A8a

^{66.}

Japanese Cement Control Association, Tokyo, 31 May 1946. U.
CIA NIS 41, Korea, Section 63, op. cit.

25X1A2g

^{67.}

25X1A8a^{68.}

25X1A2g^{69.}

25X1A8a

^{70.}

^{71.}

^{72.}

CIA NIS, Korea, Section 64, op. cit.

25X1A2g

^{73.}

^{74.}

State, OIR No. 5600, op. cit.

25X1A2g

^{75.}

CIA NIS, Korea, Section 64, op. cit.

^{76.}

25X1A2g

^{77.}

25X1A8a

S-E-C-R-E-T

S-E-C-R-E-T

25X1A2g

78. [REDACTED]
25X1A8a 79. [REDACTED]
80. [REDACTED]
81. [REDACTED]
25X1A2g 82. [REDACTED]
83. State, OIR, Report No. 5193, 24 Apr 1950. S.
84. CIA NIS No. 41, Korea, Section 65. C.
25X1A2g 85. CIA NIS No. 41, Korea, Chapter V, Section 55. C.
International Financial News Service, 26 May 1949. U.
86. NIS No. 41, Korea, Section 65, op. cit.
25X1A2g 87. [REDACTED]
State, American Consulate Pusan No. 150, 31 Jul 1952. C.
State, American Embassy Warsaw, Despatch No. 111, 15 Sep 1952. C.
88. CIA NIS 41, Korea, Chapter V, Section 55. C.
State, FID No. 209, 24 Sep 1952. C.
89. State, American Embassy Seoul, Despatch No. 631, 11 Oct 1949. C.
CIA IM No. 311, North Korea's Dependence on Outside Supplies,
2 Aug 1950. S.
CIA ORE 18-50, Current Capabilities of the North Korea Regime. S.
90. NIS No. 41, Korea, Section 65, op. cit.
25X1A2g 91. State, American Embassy Seoul, Despatch No. 179. C.
92. [REDACTED]
93. [REDACTED]
94. International Financial News Service, 26 May 1949 (Korean Affairs
Institute, The Voice of Korea, Washington, 16 May 1949). U.
95. State, OIR, Intelligence Brief No. 1001.241, 25 Nov 1953. C.
State, American Embassy Seoul, Despatch No. 179. C.
96. Ibid.
25X1A2g 97. CIA NIS 41, Korea, Section 65. C.
98. [REDACTED]
99. US Mutual Security Program, 1955. U.
100. UN Report of the Agent General of the UNKRA for period 15 Sep 1952-
30 Sep 1953. U.
101. Statement by Dr. Raymond Moyer of FOA to Senate Foreign Relations
Committee on FOA Far East Program. C.
102. New York Times, 14 Jun 1954, quoting Robert Nathan Associates. U.
25X1A2g 103. [REDACTED]
104. UNKRA, An Economic Programme for Korean Reconstruction,
Mar 1954. U.

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S-E-C-R-E-T

~~SECRET~~

- 105. . FAO/UNKRA Mission Report, Mar 1953. U.
- 106. UN Report of Agent General of UNKRA, op. cit.
State, DRF No. 186, 8 May 1950. C.
- 107. State, OIR No. 6441, 14 Apr 1954. U.
- 108. Ibid.
State, OIR No. 5600, op. cit.

25X1A8a

109. [REDACTED]

110. [REDACTED]

25X1A2g US Mutual Security Program, 1955, op. cit.

~~SECRET~~